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Measuring the Needs for Medical Service in the Retirement Residential Community in Korea

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Abstract

Medical facilities in retirement residential areas provide diverse medical and health-related services to retirees, and they are equipped and programmed with various medical services for enhancing retirees' daily activities. To find out the current status of using medical facilities by retirees, this study surveyed retirees in their fifties, sixties, and seventies, who live in Eunpyeong-gu, Seoul. The survey data was sorted by the types of medical facilities they visit, reasons for their visit, and the types of medical facilities in a retirement residential area they would prefer to visit. The pros and cons of using private and general hospitals can be evaluated further to set up the right strategy to reconcile them; and each type of hospital can be improved by adding those missing elements that the interviewees mentioned. In the broad perspective, this indicates the need to suggest the direction of preparing residential areas that are technically planned for retirees on the basis of the analysis of Korean retirees' needs.

Keywords

Urban Retirees, Baby-Boomer, Retirement Residential Area, Neighborhood Regeneration, Age-Friendly Facility, Medical Service, Universal Design, Barrier-Free Design

1. Introduction

South Korea is experiencing changes in citizen members of her cities as she enters the post-aged society accompanied by her low birth rate. South Korea's urban design continues to have emphasized city renewal and regeneration, but

perceives young generations as its main target. However, future entry into the post-aged society and the aging of baby boom generation, which is a large population group accounting for 25% of South Korean population, are working as catalysts for the exploding ratio of old population, together with low fertility (Table 1 and Table 2). After 2005, the ratio of the aged to the whole population is found to concentrate on urban areas except traditional rural areas. And the ratio of the aged to the national population also shows that far more old people reside in urban areas than rural areas. These socio-demographic problems, together with a great change in paradigms, motivate research in diverse areas, and solutions in preparation for the Homo-Hundred era have been proposed continuously. Given changes in citizens' life due to retirees' retirement as well as the problem of population aging, the change of targets in city and architecture should also be constantly recognized.

Current changes in member citizens of South Korean cities mean the change of consumer groups and the change of generations staying in space. The possibility for realizing the plan of retirement medical facilities area should be examined as an alternative medical solution in a new paradigm, and this can be achieved by analyzing their differences and characteristics, and grafting plausible architectural schemes onto the citizens' demand in urban context. Research has been carried out on this theme in various disciplinary areas to resolve the problem. The existing studies, however, have paid attention only to retirees' degenerative development, and have not considered their lifestyle. Thus, this study aims to derive the direction of plans for retirement residential areas that reflects the actual needs of urban baby-boomers. Age-friendly medical facilities are the key for neighbourhood regeneration in the post-aged society, and this will be possible by overcoming the limitations of the current conditions we will describe

Table 1. Aging speed by country.

Country	Aging society → Aged society	Aged society → Post-aged society
France	115 years	45 years
UK	47 years	37 years
Germany	40 years	37 years
US	73 years	21 years
Japan	24 years	12 years
South Korea	18 years	8 years

Source: Statistics Korea, 2015.

Table 2. Transition of elderly population by age cohort group.

	1970	1980	1990	2000	2005	2010	2020
65 or older	991	1456	3395	5357	4367	5357	7701
80 or older	101	178	483	952	676	952	1783
B/A%	10.2	12.2	14.2	17.8	15.5	17.8	23.3

Source: Statistics Korea, 2015.

in the following sections.

2. Literature Review

2.1. Retiree's Residential Needs for Area Moving

The common consideration in deciding upon residential mobility is an environment for various urban facilities and services such as medical and cultural facilities, and the preferred type of housing is the detached house [1]. In addition, when selecting housing, they don't evaluate it by management expenses but by the conditions of given environment and the convenient use of medical and cultural facilities. It is obvious from **Table 3** that retirees prefer to live nearer to the city when they have poor health and live alone [2].

As in **Table 4**, it was pointed out by Park Hye-ji [3], Kim Jin-bong [4], and Park Hye-ri [5], except Son Sung-jin [6], that a majority of retirees are considering residential removal after retirement, and selecting suburbs, which still provide easy access to cities, as the target regions of move. From this, it is found that retirees want to move to regions of relatively low living-cost as their income declines after retirement, but they try to remain in close contact with the city, rather than going to rural areas, for the reasons of health, lonely situation, or the use of familiar environment.

2.2. Retirement Community Linked with General Hospital: Medical Safe Housing

"Medical safe housing" is a case study of a house that provides the convenience

Table 3. Preferred residential areas in case of residential movement.

Item	Farming & fishing village	Suburb	City	Total
In case of good health	25.2%	44.7%	30.1%	100%
In case of poor health	18.7%	38.2%	43.1%	100%
In case of becoming alone	22.8%	35.8%	41.5%	100%

Source: Hong Hyung-ock *et al.*, "Where Do You Wish to Live after Retirement", 2004.

Table 4. Preceding studies on retirees' residential mobility and their considerations.

Researchers	Residential needs	
	Whether move or not	Consideration
Son Sung-jin	Retaining the current house	Retaining the current house by reducing the cost of living
Park Hye-ji	Residential movement	Natural environment, medical facilities, cultural facilities
Kim Jin-bong	Residential movement	Urban life, detached house, rural life
Park Hye-ri	Residential movement	Social relationship maintenance, culture & leisure, medical, townhouse

of medical services for the medically vulnerable class such as the seniors who live alone and people with disabilities who cannot move freely in their community as in **Figure 1** and **Figure 2**. As can be seen from the Zonnestraal Sanatorium in the Netherlands, the Paimio Sanatorium in Finland, Casas Da Cidade in Portugal Lisbon, public health and hygiene are important elements for the formation of the modern public senior housing. In this type of housing, it is possible to constantly check the health condition of residents and prevent dying alone. Moreover,

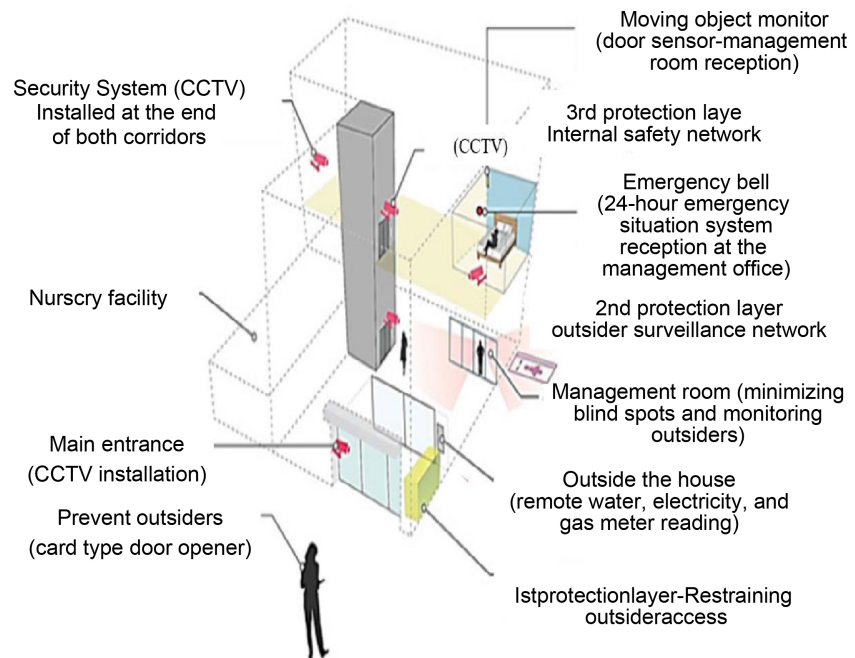


Figure 1. Medical safe housing in Seoul, South Korea.



Figure 2. Medical safe housing in Lisbon, Portugal.

the inside and outside the house is designed to be “BF” (barrier-free). In other words, steps outside the house were removed for an easier access to the complex and the corridor in the building was widened so that wheelchairs could be moved in both directions freely. It gives the maximum consideration to the senior who have difficulty in moving. Medical Safe Housing is designed in accordance with the newly established guideline and it is actively linked to various ongoing services such as the care service group in the house, the home nursing system and the daycare center. In our paper, we take this concept of medical safe housing for the future development of senior retirement community.

3. Methodology

This study largely consists of literature review and questionnaire survey analysis. The literature review is carried out to understand the physical environment for the construction of analysis tool and to derive planning concepts; to reveal the problems of current medical facilities and retirees’ life; and to analyze its scope in terms of the medical facilities of Age-friendly Residential Area for Neighborhood Regeneration. To find out the current status of using medical facilities by retirees, this study surveyed retirees in their fifties, sixties, and seventies, who live in Eunpyeong-gu, Seoul. As for the period of the pilot surveys, a total of 3 pilot surveys were carried out for 9 days from February 11 to February 20; and as for the period of the main surveys, 21 rounds of two main surveys were carried out in selected regions for 17 days from March 9 to March 26. A total of 300 questionnaires were distributed through the individual survey, group survey, and mail to find out subjects’ activity characteristics. Amongst 260 questionnaires that have been returned, incomplete responses and inadequate survey subjects were excluded, and the remaining 231 copies were analyzed for this research.

Questions about the needs on medical facilities were asked in order to find the characteristics of required facilities in their current residential areas. Medical facilities in a retirement residential area refer to the facilities that are purposely planned to be integrated with residential development from the beginning. These provide diverse medical services to retirees and are equipped with various medical programs for enhancing retirees’ daily activities. The survey targeted re-

tirees in their fifties, sixties, and seventies, who live in Eunpyeong-gu, Seoul, with respect to the types of medical facilities they visit, reasons for their visit, and additionally the desired types of medical facilities in a new retirement residential area and various reasons of preferring them.

4. Analysis of the Study

According to the hospital regulation of Korean government, a general hospital needs to have more than 100 beds and more than 8 medical subjects with supporting doctors. In our survey, however, we noticed that interviewees regard general hospitals as those simply accommodating various types of medical subjects. With this reason, we will use the term “general hospitals” to represent any hospital operating on more than one medical subject, while “private hospitals” on only one subject. Apart from these two types of hospitals, “public health centers” are those supported by the government to provide basic services to medical problems at low cost. In Eunpyeong-gu, our sample town, there are a total of 622 medical facilities with 3550 beds. Amongst these, 12 are general hospitals with 1015 beds, 462 are private hospitals with 698 beds, and 3 are public health centers.

Table 5 shows the results of questionnaire survey on the types of medical facilities they visit frequently. The most frequent one is the private hospital (68.0%), followed by the general hospital (31.2%) and the public health center (0.9%). Considering the difference in the number of general hospitals (12) and private hospitals (462), these percentages of 31.2% and 68% do not look proportional, but taking the number of beds in general hospitals (1015) and private hospitals (698) as their relative capacity of retaining patients, it is assumed that seniors tend to go to the latter more frequently for reasons other than capacity. As for desired medical facilities in a retirement residential area, the general hospital is the highest with 48.1%, followed by the private hospital, 45.5% as in **Table 6**. This shows that while seniors tend to visit private hospitals more often, many of them would be willing to choose general hospitals if conditions allow. It is true that in current circumstances where 12 general hospitals are scarcely located across the town while 462 private hospitals are densely located nearby

Table 5. The status of medical facilities currently being used.

Characteristics	Division	F (n = 231)		%
		Frequency	Valid percent	
Ownership type	Public health center	2	0.9	0.9
	Private hospital	157	68	68.8
	General hospital	72	31.2	100
	Others	0	0	
	Subtotal	231	100	

Table 6. Desired medical services in a retirement residential area.

Characteristics	Division	F (n=231)	%	
		Frequency	Valid percent	Cumulative percent
Ownership type	Public health center	11	4.8	4.8
	Private hospital	105	45.5	50.2
	General hospital	111	48.1	98.3
	Others	4	1.7	100
	Subtotal	231	100	

residences, using the former should be a challenge for various reasons. If this problem of accessibility to general hospital can be resolved through a proper town planning method for the retirement residential area, it is anticipated that there would be a stronger demand for using it.

As in **Table 7**, a statistical analysis was made to figure out the possible bias between gender, age and asset size in the sample group. It is found that p value for gender ($X^2 = 5.595$), the age ($X^2 = 9.320$), and the asset size ($X^2 = 23.646$) are bigger than 0.05 ($p > 0.05$), and thus showed no statistically significant difference.

Now, when they were asked about the reasons of using the private hospital, many of them pointed out: closer personal relationship with doctors; convenience of seeing doctors more easily and quickly; and easy accessibility (**Table 8**). As private hospitals outnumber general hospitals by 462 to 12, this seems to be an expected outcome. While the answers show that slightly more retirees desire to use general hospitals (48.1%) in a new retirement residential area as seen previously in **Table 6**, it is interesting to see there are still demands and preference of using private hospitals (45.5%). The reason for this can be seen in **Table 9**. It is noteworthy that even after the new residential area provide better accessibility to general hospitals, the benefit of using private hospitals cannot be properly replaced.

Next, **Table 10** shows the reasons for current use of general hospitals. It should be repeated that current use of general hospitals was 31.2%, compared to 68% who use private hospitals. Many pulling factors for using general hospitals were related to the reliability of them due to the systematic operation and treatment of medical care as well as division of labors between many doctors and supporting staffs. In other words, respondents think the bigger hospitals generally have more advanced medical devices and operational system, combined with more professional staffs. Also, it was pointed out that with various departments in a same space, they can provide more convenient and smooth service and act promptly to emergency situations. Other answers include the convenience of parking and reservation.

Table 7. Results from the cross-tabulation of general characteristics and desired medical services.

		Desired medical facilities to visit when sick				Overall	x	df	p
		Public health center	Private hospital	General hospital	Others				
Gender	Male	10	83	96	2	191	5.595	3	0.133
		5.2%	43.5%	50.3%	1.0%	100.0%			
	Female	1	22	15	2	40			
		2.5%	55.0%	37.5%	5.0%	100.0%			
Age	50s	3	55	56	3	117	9.320	6	0.156
		2.6%	47.0%	47.9%	2.6%	100.0%			
	60s	5	45	46	1	97			
		5.2%	46.4%	47.4%	1.0%	100.0%			
	70s	3	5	9	0	17			
		17.6%	29.4%	52.9%	0.0%	100.0%			
	Less than KRW 3 mil.	1	6	9	0	16			
		6.3%	37.5%	56.3%	0.0%	100.0%			
Asset size	KRW 300 mil.-less than 500 mil.	4	38	25	1	68	23.646	15	0.071
		5.9%	55.9%	36.8%	1.5%	100.0%			
	KRW 500 mil.-less than 700 mil.	0	27	34	1	62			
		0.0%	43.5%	54.8%	1.6%	100.0%			
	KRW 700 mil.-less than 900 mil.	5	15	14	2	36			
		13.9%	41.7%	38.9%	5.6%	100.0%			
	KRW 900 mil.-less than 1200 mil.	1	5	5	0	11			
		9.1%	45.5%	45.5%	0.0%	100.0%			
	KRW 1200 mil. and over	0	14	24	0	38			
		0.0%	36.8%	63.2%	0.0%	100.0%			
Overall		11	105	111	4	231			
		4.8%	45.5%	48.1%	1.7%	100.0%			

It was already shown in **Table 6** that assuming better accessibility to general hospital in a new retirement town, the proportion of choice went up to 48.1%, while the choice of private hospitals went down to 45.5%. For those who chose general hospitals, the same question was asked: why they hope to use general hospitals in the new setting (**Table 11**). It is not surprising that many of the answers are similar to the ones in the previous table due to the innate nature of

Table 8. Reasons for using the private hospital.

Classification	Detailed opinion
Personal reasons	<ul style="list-style-type: none"> • Personal relationships. • Because I can communicate with a doctor personally more in detail.
Reasons in terms of operation system	<ul style="list-style-type: none"> • Because the private hospital is kinder than the general hospital. • Because the reservation waiting time is long in the general hospital. • Because of a short waiting time (because the procedure is simple). • Because it takes a short time to receive treatment.
Reasons in terms of accessibility	<ul style="list-style-type: none"> • Because it is near and highly accessible. • Because it is difficult to go to general hospital due to heavy traffic. • Because it is simple and convenient.

Table 9. Reasons for hoping to use the private hospital in a retirement residential area.

Classification	Detailed opinion
Personal reasons	<ul style="list-style-type: none"> • Because I suppose the private hospital will provide more meticulous treatment than general hospitals. • Because the private hospital is kinder to patients than general hospitals.
Reasons in terms of system	<ul style="list-style-type: none"> • Because I have personal ties with the hospital, and I suppose they will give a careful care. • Because I prefer private hospitals of a short waiting time in order to receive prompt treatment. • Because it is simple and convenient, and not burdensome. • Because I expect they are located near.
Reasons in terms of accessibility	<ul style="list-style-type: none"> • Because it is near from my house and I can visit it any time easily. • I prefer a near one.

general hospitals. However, some different answers can be found in the last category, “reasons of physical ageing”. From the answers, it is found that retired seniors are concerned about the possibility that they would get sicker, having more disease including chronic ones, and undergo a big surgery as they get older. With a constant and systematic observation on elderly people’s health in their accommodation, linked with general-hospitalized care units in vicinity, the retirement residence can resolve these concerns and issues related to the accessibility of medical facilities.

Finally, **Table 12** shows the reasons why they would prefer to use public health centers in the new retirement residential area. Clearly, it is the benefit of getting medical treatment in a low-cost due to the financial support from the government. It was recognized from **Table 5** and **Table 6**, however, their proportions are very small; their percentage of current use is 0.9% and that of desired

Table 10. Reasons for using the general hospital.

Classification	Detailed opinion
Personal reasons	<ul style="list-style-type: none"> • The system is reliable. • Because the general hospital is more reliable than the private hospital. • Because the medical team is reliable. • Because they are kind. • Because I have taken medical examinations there from the past. • Because it is time I take a comprehensive medical test. • Because small private hospitals have no solution. • Because I can take a comprehensive medical test. • Because they can provide convenient comprehensive medical services.
Reasons in terms of operation system	<ul style="list-style-type: none"> • Because they provide the systematic management of my medical records irrespective of specialties in medicine. • Because I expect professional and specialized treatment system. • Because they provide convenient reservation and parking systems.
Reasons in terms of physical facilities	<ul style="list-style-type: none"> • Because of convenient parking service provided while I receive diverse medical treatments. • Because of far more excellent medical instruments and facilities.
Reasons in terms of accessibility	<ul style="list-style-type: none"> • Because the general hospital is near from my current residence.

use in a retirement residential area is 4.8%. The primary reason for this low usage is due to the small number of the centers in each administrative towns. In the case of Eunpyeong-gu, our sample area, there exist only three public centers while there are 12 general hospitals and 462 private hospitals. At the same time, because of their small size and limited medical service, it seems that the public health center is not considered as a proper and reliable service for serious medical problems; they are treated merely as a place for quick and easy treatments. From the 2016 statistics of Eunpyeong-gu, however, it is found that 36.3% of population over 65 has an experience of using public health centers in a given year. This indicates that there is a potential that this government supported medical system is operating well to a certain level. With more investment and expanded services, it could be an effective alternative choice for the low-income seniors in the new retirement residence.

5. Conclusion and Discussion

Korea has entered the aging society at an exceptional speed among OECD member countries. In addition, the retirement of the baby-boomer generation is another problem that should be solved in the era of rapid aging of population. This paper has investigated the current status and hidden preferences of the retired baby-boomer generation on their pattern of using medical facilities. The

Table 11. Reasons for hoping to use the general hospital in a retirement residential area.

Classification	Detailed opinion
Personal reasons	<ul style="list-style-type: none"> • Because of vague trust in the medical team. • Because they are more reliable than private hospitals. • Because my personal illness can't be treated at private hospitals. • Because they are kind to patients. • Because I suppose they will commit few medical errors. • Because I have plenty of time and I want an accurate diagnosis. • Because there are many professional doctors. • Because I can't trust private hospitals for the treatment of my body. • Because of their one-stop process from diagnosis to treatment.
Reasons in terms of operation system	<ul style="list-style-type: none"> • Because of their prompt response to emergency situation. • Because of their professionalism based on personal-health database. • Because of their 24-hour standby system such as emergency room. • Because a comprehensive disease diagnosis is available. • Because they are equipped with diverse medical facilities.
Reasons in terms of physical facilities	<ul style="list-style-type: none"> • Because they are equipped with state-of-the-art medical facilities. • Because their environment is comfortable. • Because their facilities are excellent and convenient.
Reasons in terms of accessibility	<ul style="list-style-type: none"> • Because I expect a general hospital will be located near a retirement residential area. • Because I feel more relieved by their location near from my housing. • As I get older, I might catch more diseases. • Private hospitals are not competent enough for the aged's getting sick frequently.
Reasons of physical ageing	<ul style="list-style-type: none"> • Because of fear that I might undergo a big surgical operation. • Because private hospitals can't treat my chronic disease. • Because comprehensive health will be important in the future. • Because a number of diseases are caused by ageing. • Because I feel uneasy about my future health.

Table 12. Reasons for hoping to use public health centers in a retirement residential area.

Classification	Detailed opinion
Financial reasons for preferring the health center	<ul style="list-style-type: none"> • Because the nation offers benefits. • Because of medical expenses.

accessibility to the medical system is the key aspect in the planning of senior residences and communities, and therefore their reasons of preference was cross-checked to illuminate the possible ways of combining welcoming community with easy accessibility to medical programs. The pros and cons of using private and large hospitals can be evaluated further to set up the right strategy to reconcile them; and each type of hospital can be improved by filling in those

missing elements that the interviewees mentioned. Furthermore, the cost issue in using medical facilities also needs to be investigated in future studies, because the frequency of using general hospitals, private hospitals and public health centers have been found to be influenced by the cost as well as accessibility. It has been reported in 2016 statistics of Eunpyeong-gu that the percentage of not getting the regular medical check due to the high-cost is the highest at the age group over 60, compared with other lower age groups. Therefore, it is crucial to have both architectural approach and financial approach to the problem of medical care for the retired senior group and they need to be integrated to the planning of sustainable town planning for elderly people. Given the current pace of ageing of the country as a whole, the existing paradigm for housing and medical system in Korea needs to be re-evaluated and re-adapted to the emerging needs of the people and the market in the coming years.

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